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Evaluating ICT utilization in education administration and management during the COVID-19 outbreak in Pakistan: An empirical review

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Abstract: This study aims to evaluate the utilization of ICT in education administration and management in a Pakistan context during the pandemic outbreak. Adoption of information and communication technologies (ICTs) has digitalized the learning process where education organizations were administrated by means of wireless-based instructions, electronic pedagogy, and online assessment in order to continue the educational activities while the government halted the physical appearance in education institutions. Data collection has been carried by three public universities in which teachers and general administration of these institutions participated to discover their intention to use the assigned technology to administrate organizations' policies in the way to disseminate the respective service delivery. Survey questionnaires were used, and 178 respondents' feedback was secured to analyze the study that was carried out via SPSS version 24 and validation OF hypotheses measured by means of regressions and correlations. Moreover, proposed factors like intention to use, perceived ease of ease, perceived usefulness, social influence, and Users' expectations were used. A theoretical approach was inculcated to encircle the UTAUT and TAM model to determine the adoption of the innovative system education management during the pandemic outbreak in the country.

Keywords: Education administration, electronic learning, intention to use, ICT

Mengevaluasi pemanfaatan TIK dalam administrasi dan manajemen pendidikan selama wabah COVID-19 di Pakistan: Tinjauan empiris

Abstrak: Penelitian ini bertujuan untuk mengevaluasi pemanfaatan TIK dalam administrasi dan manajemen pendidikan dalam konteks Pakistan selama wabah pandemi. Adopsi teknologi informasi dan komunikasi (TIK) telah mendigitalkan proses pembelajaran di mana organisasi pendidikan diadministrasikan melalui instruksi berbasis nirkabel, pedagogi elektronik, dan penilaian online untuk melanjutkan kegiatan pendidikan sementara pemerintah menghentikan penampilan fisik di lembaga pendidikan. Pengumpulan data telah dilakukan oleh tiga universitas negeri di mana para guru dan administrasi umum dari lembaga-lembaga ini berpartisipasi untuk menemukan niat mereka untuk menggunakan teknologi yang ditugaskan untuk mengatur kebijakan organisasi dalam cara menyebarluaskan pemberian layanan masing-masing. Kuesioner survei digunakan, dan umpan balik 178 responden diamankan untuk menganalisis penelitian yang dilakukan melalui SPSS versi 24 dan validasi hipotesis yang diukur melalui regression dan korelasi. Selain itu, faktor yang diusulkan seperti niat untuk menggunakan, kemudahan yang dirasakan, kegunaan yang dirasakan, pengaruh sosial, dan harapan Pengguna digunakan. Pendekatan teoritis ditanamkan untuk melingkupi model *UTAUT* dan *TAM* untuk menentukan adopsi sistem manajemen pendidikan yang inovatif selama wabah pandemi di tanah air.

Kata Kunci: Administrasi pendidikan, pembelajaran elektronik, niat penggunaan, TIK

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INTRODUCTION

Every aspect of human life in the contemporary era of the scientific age is being affected by the use of information and communication technologies (ICTs), where computer-based infrastructure has secured deep significance to be used in the various government sectors like business, Medicine, defense, banking, education, etc. In the contemporary era of the scientific age, the use of technology in educational institutions became a miracle in knowledge generation and its propagation. In this concern, the use of ICT is a powerful vehicle to facilitate an easy and speedy learning environment and sustain education administration in an effective means (Chandio, 2020; Haastrup, 2009). The use of ICT has become a culture in each institution which emerged in the form of E-Banking, E-ticketing, E-Governance, E-transferring, E-learning, and telemedicine, whereas the adoption of information technology in the education activities during the Pandemic outbreak played an effective role to meet the gap of traditional learning activities (Chandio, 2020; Haider, et al., 2019; Rafique et al., 2021; Ullah et al., 2021). The broad scope and use of information technology in administration across the globe made a revolutionary change in service delivery and transparency, which also encouraged the quality of work and living patterns. The use of ICTs in education administration and management during the COVID-19 outbreak in Pakistan remained appreciable to speed up the educational organizations' service delivery to learners, teachers, and all other stakeholders. It is an unavoidable reality that ICTs play a crucial role in the integration of educational purpose whereas administrators and leaders can assist in introducing the ICT based culture maintenance to regulate and carry out the task, which also depends and require adequate skill and IT expertise to meet the envisaged goal (Ukanwa & Chiemeka, 2021). The use of the ICT in education is an effective factor to improve teaching and learning, educational administrative activities, and effective school management and inculcate sustainable reforms in education at a large scale.

Increasing demand and supply of ICTs use in Pakistan also face gaps in meeting set goals to materialize an effective integration to achieve the knowledge-based economy (Chandio, 2020; Shaikh & Khoja, 2011). Besides, effective and efficient use of the ICT requires an appropriate and sound ICT policy-making and advancement of information technology literacy and infrastructure to make Pakistan knowledge-based economy via integrating administration at the higher education level in the country (Haider, et al., 2019; Shaikh & Khoja, 2011). Numerous researchers support the transformation of the knowledge-based economy in the era of globalization, which can improve the life quality, and prepare the skilled workforce and the advent of ICT use with a short history with its emergence last two decades assisted in the explosion of information gave birth to knowledgeable societies (Shaikh & Khoja, 2011; Bhattacharya & Sharma, 2007). The use of ICT cannot be denied in the way to play its role in the school management and education administration to propagate the educational activities and maintain the coordination in the education sphere during the pandemic where physical operations were hindered (Chandio, 2020; Chaudhary, et al., 2020). Henceforth, applications related to ICT in schools encircle a wide scope and signification to develop the electronic learning process and administration in a critical time like Covid-19 stopped all traditional educational operations (Chandio, 2020).

The adoption of innovative systems in education administration and management is the dire need of the modern era of scientific age in which ICTs can restructure the education system, bring diversification and innovative methods in teaching and learning and invest the initiatives of all stakeholders to materialize a rapid and effective change in society and mobilize a speedy and improving effectiveness and efficiency based on the sound produced in the days of national emergency (Chandio, 2020). In the universities of Pakistan, the proper use of the ICT can assist in maintaining continuity in educational activities and all concerned administration tasks to be carried out via adoption of the technology and sustained an online platform (Arshad, 2020; Chandio, 2020). The investment of the ICT applications in the school administration can also be appropriate to administer the human and non-human resources and accelerate the effective service delivery, transparency, accountability, and ensures the stakeholders' participation with the common goal of an educational organization. The contemporary study is concerned with evaluating the utilization of the ICTs in educational administration and management during the pandemic outbreak in Pakistan. It incorporates the behavioral factors to discover and assess users' perception to use the technology in which participants belonged to three public universities to interpret the viewpoint of the teacher and administrative staff of the concerned educational organization. The advantages of wireless-based learning and the use of digitalized administration during the Covid-19 outbreak can be useful to encircle the comfort of distant learning and administration to mobilize a speedy and accessible education organizational instruction (Chandio, 2020; Mukhtar, et al., 2020). The acceptance of innovative technology in an educational sphere can be fruitful and a helping factor in education management, online assessment, wireless-based instruction, and administration to carry out the envisaged goal of traditional education in the days of natural calamity.

Literature review

The use of technology in the education sector is also a challenging factor in Pakistan to be viewed as an integrating ingredient in educational instruction (Chandio, 2020; Farid, et al., 2014). The use of ICT in times of COVID-19 is one of the right ways to meet educational needs in Pakistan (Shehzadi et al., 2020; Talebian et al., 2014). The confined utilization of educational technology secured preferred and a significant status in the society due to lack of ICT infrastructure, lack of training, scarcity of experts, inefficient administration and planning flaws in the education sector which create obstacles to ensure a successful implementation of ICT in education (Hassan, & Sajid, 2013). Information Communication Technology (ICT) can play a significant role in encouraging quality education and administrative service delivery, which proceeds from storage of data to knowledge management and decision making (Chandio, 2020; Ghavifekr, et al., 2013; Raza et al., 2021). The technology-based tools used by the teaching and non-teaching staff eradicated all barriers to confine the knowledge and information within walls of a classroom and administrating office to sustain speedy learning and communicating and collaborative working (Chandio, 2020). Utilization of ICT allows creating an innovative education system and the concerned applications mobilized and effective service delivery in the administrative activities to improve and motivate the administrators to work via the investment of the ICT in the periodic administrative tasks to be carried in an efficient and effective means (Ghavifekr, et al., 2013; Raiman et al., 2021).

In the existing age of science and technology, the role of ICT can be important to materialize the facilitation to accomplish the educational activities and the technology and education integration cannot be avoided in order to improve education organizations performance and the adoption of the ICT also becomes an effective and efficient factor in the teaching, learning and administrative use (Chandio, 2020; Ghavifekr, et al., 2013; Tosun & Baris, 2011). Information Communication Technology (ICT) makes an effective use of the applications in the way to create access, store data, and ensure the transmission and manipulation of information because of the ICT applications' capabilities. In education, there is numerous purpose of the ICT applications which encircle an effective teaching and learning process to secure education based on quality and encourage the students' development and its investment in administrative purpose by staff, management, teacher and student can also be encouraged (Chandio, 2020; Ghavifekr, et al., 2013).

In the prevailing study, the use of ICT applications in education sectors by administration, management and other concerned users implies the process to sustain the planning, organizing controlling, and managing resources in the way to materialize the set goal of the organization by means of the use of information technology during the critical time of Covid-19 outbreak in Pakistan. Numerous communities across the globe framed ICT policies and strategies in their education management and administration during the Covid-19 pandemic and hindered physical educational operations (Arshad, 2020; Chaudhary, et al., 2020; Ghavifekr, et al., 2012). The use of the electronic learning and adoption of ICT based applications encouraged during the Covid-19 outbreak in Pakistan where higher education commission (HEC) urged the affiliated institutions to follow the Digital-learning management and administrative activities (Guemide & Maouche, 2021; Chandio, 2020). The reason is that the government is taking initiatives to reduce the health risk, spread of the Covid-19 and maintain the continuity of the educational process in the country which also encouraged the ICT use in the education sector and made aware the higher educational institutions to sustain position to use the technology as a fact. Based on the concept and definition of the ICT and education administration chief dimensions relating to study can be summated and included. It is a process to integrate the available human and non-human resources and their effective and efficient use to achieve the purpose and set goals of an educational institution.

It ensures the provision of a proper education to students that match to be right type of education to leaners and encircle the quantitative and qualitative mobility of education. Education administration brings the utilization of the available resources (Man, Material and Money) to fulfill the set goal and purpose of the education and execute the educational policies into practice to materialize the mobility in the educational activities and process. Administrative morality also binds the education and its professional ethics which energize the teachers' professional development. It is the education administration to accelerate the programmes and allow the stakeholders to introduce innovative ideas and encourage the commitment and dedication to education organization.

Education administration mobilizes not only an individual life but it also sustains the relation to community which achieve the qualitative and quantitative expansion and improvement in the education system by means of a fair evaluation and examination. It maintains the all other educational activities like to consolidate co- curriculum to enhance the faculty of talent among students and encourage the teachers' efficiency. Role of school

administration in curriculum development cannot be avoided and administrators make sure teachers have the necessary resource and equipment to deliver an effective curriculum. Administrators also possess the matter in hand as planning events and carrying out curriculum. Administration in education creates the coordination and cooperation and ensures to get the work done in an effect and effective means in the best interest and welfare of an individual and collective life.

The use of ICT applications for school management and administration can assist in record keeping, scheduling, and maintenance of school. It can be used to sustain an effective communication with parents via adoption of the technology and explain the management system of school and its role and functions. The use of ICTs technology can help to reduce the operational inefficiency and cultivate in the improvement of decision-making. Numerous studies support the use of ICTs in the education can benefit to Pakistan and also argued with a contradicting approach to become the task difficult to achieve the advantageous from the technology under the prevailing conditions (Chandio, 2020; Qureshi, et al., 2012). In addition, prevailing study delineates the intention of online technology users' in education organizations in which proposed antecedents like PEOU, PU, SI, UE, and ITU. In this study, an investigation carried out to measure the online technology users' opinion relating to teaching and non-teaching staff in public universities in Sindh, Pakistan in which digitalized feedback and use of technology during the COVID-19 outbreak calculated and users' viewpoint integrated how the digitalized response impacts their educational activities.

Theoretical approach and development of framework model

In the prevailing study, the theoretical approach encompassed the unified theory of acceptance and use of technology (UTAUT) and Technology Acceptance Model (TAM). The inculcated theories are concerned to discover the perception of ICT users as a newly adopted technology in which teachers and general staff integrated with their feedback. The proposed variables in this study have been borrowed from theses theoretical approaches where the constructs like ITU, SI, PEOU, and PU were derived from TAM model and used in numerous studies with concerned related and diverse in nature of the domain and studies whereas the factor Users' expectation assess the students anticipation to use the online technology (Chandio, 2020; Ayasrah, 2020; Punnoose, 2012; Davis, 1989). Moreover, the TAM model measures the degree of acceptance of information technology where PEOU, PU and ITU constructs were borrowed to discover the intention to users and assess the social and psychological influence (Chandio, 2020; Venkatesh, et al., 2003). The extant study attempts to delineate the intention of users of a wireless based technology and their attitude to carry out the assigned task to be accomplished during the pandemic outbreak and lockdown across the country which halted and affected all education organizations.

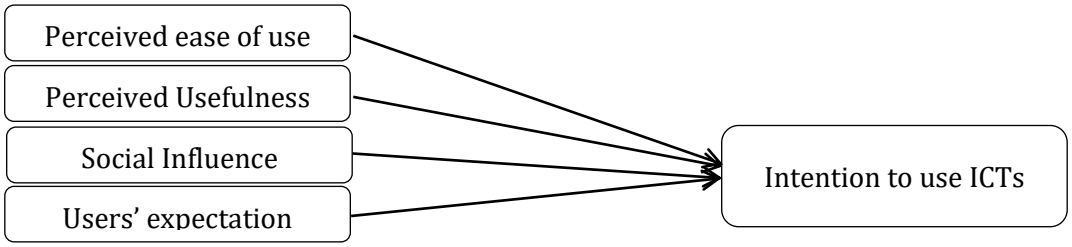

Fig. 1. Conceptual framework model

Research questions and hypothesis

Research question

Based on the development proposed model, literature review and the nature of the study research statement framed and research questions to be answered in order to match and discover the empirical investigation.

RQ1. What type of your vision for supporting the use of online based technology in education administration and management that is based on the technology infrastructure?

RQ2. How you notice like an online technology user in educational organization and administration to perceive the technology as useful, easy, and meet the social response in the educational activities like in teaching, learning and carrying out the administrative activities during the pandemic outbreak and quarantine days?

Hypotheses

H1. A positive and significant relationship has been associated between the perceived ease of use (PEOU) and intention to use University technology (ITU).

The proposed antecedent's PEOU implies to perceive the technology as a trouble free use of system where users consider uneasiness in use of technology where government adopted ICT use to create trouble-free delivery of services interaction (Chandio, 2020; Haider, et al., 2019; Shaikh 2016). There are various scholars to measure the PEOU and PU relationship with the dependent variable ITU to interpret the effortless opinion of a user to adopt technology (Chandio, 2020; Abu-Shanab, 2014). This study pays attention to meet the users' perception to utilize the wireless based learning as the concentration relies and the factor PEOU hypothesized with the ITU.

H2. A positive and significant relationship has been associated between the perceived usefulness (PU) and intention to use University technology (ITU).

The proposed construct PU indicates a user's perception to perceive the system beneficial and useful to carry out the education administration and management (Chandio, 2020; Haider, et al., 2019; Abu-Shanab, 2014). PU is a digital technology related perception of a user's to use the wireless based system to adopt an innovative mechanism as a valuable and useful to education organizations (Chandio, 2020). The mentioned determinant has been used by the numerous scholars in different studies with a certain language modification and subject nature (Chandio, 2020; Moore & Benbsat, 1991; Thompson, et al., 1991). The proposed factor was measured with the criterion variable intention to use by various researchers in their studies in order to interpret the adoption of an innovative system in an organization and derive the opnion of the newly user of the technology (Chandio, 2020; Haider , et al., 2019; Abu_Shanab, 2014).

H3. A positive and significant relationship has been associated between Social Influence (SI) and Intention to use University technology (ITU).

Social influence is another significant construct to assist to assess the attitude of social wave regarding the use of the innovative system in education organizations and evaluate the degree of acceptance of technology (Ahmed, et al., 2021; Haider, et al., 2019). Moreover, it highlights social perception of society as the users meet to other opinion relating the adoption of information technology and wireless based education management where it is the social perception and psychology of people to users to prove the ICT based education to be introduced or not which impact the users' intention to use the electronic learning system.

The proposed construct mentions the social perception concerning the electronic learning services as to meet the social waves of people's feedback. Social influence has been recognized as a vital determinant in order to assess and internet users' attitude and evaluation of the technology acceptance to them and the factor has been hypothesized with the intention to use to discover people's opinion concerning online instructions carried out by the teachers and administrative staff during pandemic outbreak in Pakistan (Ahmed, et al., 2012; Chandio, 2020; Venkatesh, et al., 2003).

H4. A positive and significant relationship has been associated between the Users' expectation (UE) and intention to use University technology (ITU).

Users' expectation highlights anticipation and attitude of user's to become agree with the offered online programs of an education organization (Ayasrah, 2020). An expectation addresses users desire with opportunity to fail to attain the traditional educations and meet online educational activities. Diverse opinions can be evaluated to user expectation to design and deliver a wireless based education management. The proposed factor has been measured with the criterion variable intention to use University technology to interpret the users' perception to use the technology as an integrating part of educating process (Ayasrah, 2020). In addition, the derived construct is vital to assess the satisfaction and self-prediction or persons insights to all stakeholders' like educators, administrative staff, teachers and parents to meet their viewpoint on the adoption of e-learning environment. Hence determinant was not confined to learners' readiness expectations but also applied with diverse dimensions to degree satisfaction and procedure of learning that indicates to use the factors with different nature of study in time to come (Ayasrah, 2020; Gülbahar, 2012).

METHOD

The sampling process and research methodology in this study can be summed up and enlisted as below.

1. This study inculcated the cross-sectional study and quantitative research methodology.
2. Survey items were used to collect data and five point likert scale was used with five options to gather respondents feedback. Moreover, random sampling was adopted to gather response of the participants.
3. In the data collection process, researcher monitored and ensured the personal participation and secured the assistance of colleagues in which 178 respondents sustained their feedback out of 213 distributed questionnaires.
4. Data was collected from 150 teachers and 28 general administrative staff who used the wireless based technology to during the pandemic outbreak to continue the educational activities under the prevailed condition of the hindered traditional education administration and management.
5. Teacher used the wireless-based technology in the way to maintain online class, digital assessment whereas administration encouraged the instructions to teacher, student and other concerned general staff.
6. Data collection has been derived from the participants of teachers and general administrative staff of three public Universities in Sindh province like University of Sindh, Shah Abdul Latif University Khairpur, and Karachi University and the whole data collection process took six months.

RESULTS

In the existing context of the study follows the quantitative methodology and survey based research where data was collected from the teaching and non-teaching staff. All proposed variables like PEOU, PU, SI, and EU in the study positively associated with criterion variable ITU. Data collection was carried by means of Five point Likert scale which contains five options for instance strongly disagree (SD), Disagree (D), Neutral (N), Agree (A) and strongly agree (SA). Where, testing and validation of hypotheses were materialized via use of correlation and regression analysis. In a demographic characteristics, male respondents (N=162) 91%, and female participants (N=16) 8.8% produced the feedback. Moreover, all respondents (N=113) 63.4% were with qualification of M.Phil/ P.h.D and remaining participants (N=65) 36.5% mentioned their qualification with Master and Bachelor. The majority of respondents were in age 35 to 45 which encircled (N=146) 82.0% employees, age under 45 to 55 yeas remained in (N=27)15.1% whereas respondents (N=5) 2.8% indicated the age factor between 21 to 35 years.

Table 1. Survey items, SD and mean

Proposed Items	**Mean**	**SD**
Q1: I make the intention to apply ICTs based technology in Education Sphere (ITU)	3.691	0.964
Q2: I make expectation online administration and teaching can be useful and helpful to all stakeholders during the pandemic outbreak (ITU).	3.747	0.851
Q3: I envisage a plan and prefer to organize the use of innovative technology in the public universities/ university in the teaching and non-teaching activities (ITU).	3.722	0.866
Q4: Using wireless based will not be uneasy to me to use it (PEOU).	3.665	0.848
Q5: The use of ICTs is the trouble-free for to achieve my educational objectives and administrative activities (PEOU)	3.741	0.764
Q6: It would easy for me to carry out my task via applying ICTs technology and educational organization (PEOU)	3.750	0.737
Q8: The Use of ICTs can be helpful for to carry out and accomplish my educational and administrative process faster (PU)	3.837	0.765
Q9: ICTs services provide me an easiness to perform my educational and administrative activities to be done (PU).	3.874	0.742
Q10: Using ICTs infrastructure can develop my performance and eliminate hindrance to comprehend my teaching and non-teaching assignments in my educational organization (PU).	3.787	0.784
Q14: People influence the user to use the information technology and prefer the digital learning and administration during the pandemic (SI)	3.714	0.742
Q15: Influential people of my society think that I must adopt the electronic administration and wireless based education activities during the outbreak of natural calamity (SI)	4.434	2.672
Q16: The most significant people consider the user must prefer to adopt the ICTs technological system to be beneficial (SI)	3.867	0.763
Q18: I expect the use of ICTs easy and find the way to meet the task in hand timely (EU)	3.772	0.719
Q19: User expectation relating to ICTs use in educational activities is deeply appreciated and supported and perceive comfortable (EU)	3.742	0.785
Q20: Expectations of users favor the university Web site in the way to provides information that can be comprehended easily (EU)	3.680	0.722

Table 2. Pearson correlation

	BI	PEOU	TIT	SI	IQ
ITU	1				
PEOU	0.589**	1			
PU	0.566**	0.568**	1		
SI	0.580	0.562**	0.488**	1	
EU	0.561**	0.571**	0.576**	0.545**	1

Bivariate Pearson's correlation was used for testing the linearity in data. The correlations significant scales set at two levels as P=0.01 and P=0.05 and (r) values contain from–1 to +1 (Pallant 2013). Pearson's correlation assists to find out the factorial relationship between the independent and dependent constructs whereas a significant relation is to maintained at the 0.1 level to highlight and support the model and all factors to remain significant with the criterion variable. The correlation among the proposed variables in this study remained between (0.589 to 0.488) in which correlation of PEOU (0.589), PU (0.566, 0.568), SI (0.562, 0.488), and UE (0.576, 0.545) to d confirmed. In this means the highest correlation prevails in the variable (0.589) and the lowest correlation was measured between (0.562, 0.488). Multiple regression highlights the impacts of independent construct to dependent variable to test the hypothesis which can be used to predict the values of variables. Regression is a statistical technique to discover the interrelationship of the independent and dependent constructs and it is also maintained to regulate the relationship of the independent and dependent factors with few predictors (Hair, et al., 2014; Pallant 2013).

Table 3. Regression analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.655	0.302		2.171	0.031
	PEOU	0.426	0.082	0.282	4.683	0.000
	PU	0.356	0.084	0.267	4.317	0.000
	SI	0.258	0.074	0.179	3.425	0.001
	EU	0.255	0.080	0.188	2.455	0.001
a. Dependent Variable: ITEL						

On the ground of multiple regression analysis, tests of the research hypotheses were carried out on the basis of standardized estimate and value for data analysis, in which research brought SPSS 24.0 into use as Windows software to launch the functional mechanism of the model in order to examine the hypotheses. Using path estimates and four hypotheses were mobilized to be examined in the prevailing study. The variable perceived ease of use (PEOU) contains the B value 0.383, Std. E 0.082, Beta SC with 0.282, T value inculcates the 4.683, and Sig 0.000 and the findings under the determinant perceived usefulness (PU) encircles the B value 0.356, Std. E 0.084, Beta Standardized Coefficients, 0.267, T value inculcates the 4.317, and Sig. 0.000. The results under regression, variable the factor social influence (SI) includes B value 0.258, Std. E 0.074, Beta Standardized Coefficients, 0.179, T value instructs the 3.425, and Sig 0.001. Moreover, the construct User's

Expectation (UE) sustained the findings with B value 0.255, Std. E 0.080, Beta Standardized Coefficients with, 0.188, T value inculcates the 2.455, and Sig 0.001. The key purpose of this existing research is to examine the contributory associations between criterion's construct (ITU) and independent constructs (PEOU, PU, SI, and UE). The findings highlighted that PEOU, PU, SI, and UE, possess a significant and positive impact on the dependent variable intention to use University technology. On the basis of the above findings of using regression analysis there is a strong correlation of the independent and dependent variable and an appropriate association measured.

DISCUSSION

The prevailing study incorporates the quantitative and survey-based research. It contains the cross-sectional study where primary data has been collected from the public universities and the proposed hypotheses sustained a positive relationship between independent determinants (PEOU, PU, SI, and UE) and dependent variable intention to use. Moreover, the factors were used by numerous earlier researchers with light variation in language, domain, and nature of the study as this research related to discovering the intention wireless-based technology use in education administration and management during pandemic outbreak who apply information and communication technologies (ICTs) infrastructure in dispensing the educational activities (Chandio, 2020; Haider, et al., 2019; Abu-Shanab, 2014).

The proposed constructs sustained significant relation with the criterion variable where findings support the users' intention to use the innovative system in the education administration and management that motivate them to adopt ICT use in the education organizations. The determinants like PEOU, PU, SI, UE, and ITU maintained a significant positive relationship where the intention to use ICT in university users encouraged to adopt the use of technology during the pandemic outbreak and lockdowns to impact the physical appearance of learners and hindered traditional educational activities. In this study, pursued methodology data collection process, and research design were used by the earlier research in order to interpret the perception of users of innovative system (Chandio, 2020; Ayasrah, 2020; Haider, et al., 2019). For data collection researcher followed the personal participation and also secured the assistance via online survey method via distributing the survey items to respondents in which five point Likert scale was used under five point options. The chief focus of this study is to interpret the perception of newly adopted technology in education administration and management to sustain online learning in which teacher and general administrative staff was particularized to discover their intention regarding the use of ICT based instructions in the education activities. Implications of this study assess the users' tendency towards adoption of technology which assisted them to carry out the curriculum in time of natural calamity and the findings support the behavioral approach to meet the technological acceptance and users' satisfaction with the technology. The chief findings in this study can be summed up as below.

- The maximum correlation and significant relationship was found between the independent and dependent variables like PEOU, PU, SI, UE, and ITU.
- In the regression analysis it was discovered via independent constructs and dependent variable relation to meet the users' intention to use the online educational activities.

- All the proposed variables like PEOU, PU, SI, and UE possesses the positive significant relationship with the criterion variable intention to use.
- It can assist to discover the users' degree of reliability which is based on the ease of system, social influence, and users' expectations to use technology to determine the intention of users of electronic services in the educational settings.

The limitations and future directions have been inculcated in the study. It contains the quantitative research methodology, cross sectional, and survey based design. Furthermore, it limited to three public universities investigation relating to online based technology users in education and it also narrow downed to teachers and general administration perception whereas the coming research can apply this nature research to other organization and broaden the research at country level. The recommendations include to follow the different context ad factorial acceptance to meet this type of study and the proposed model can also be applied the private sector possibly. In addition, citizens' perception must be investigated via adopting behavioral and technology factors to interpret their intention regarding the government scheme to adopt online education initiatives in Pakistan.

In this study, 178 respondents maintained their feedback which assisted to maintain the empirical analysis of the study. Moreover, the findings support the teachers' majority respondents' participation. Teachers' maintenance is to favor the use of wireless based technology during the pandemic outbreak in Pakistan whereas ICTs infrastructure was used in the way to meet digital assessment and online learning that became a fruitful to meet the gap of halted traditional educational activities. In addition, it is recommended to pursue the longitudinal study in order to reinterpret the dynamic behavioral approach of users and it is suggested to integrate the study to discover the citizens, students and other government public workers force concerning the use of innovative technology in educational sphere. The proposed determinants in this study recommended envisaging the limitation and range of research in a Pakistan perspective to discover the ICTs users' intention by teaching and non-teaching staff. Participation of parents and citizens must be made a part of coming research to meet the parameter of the ICTs use in education sector that can help to design public policy and promote the use of technology to broaden.

CONCLUSION

ICTs applications for administration and management has been popularized in the education sector due to its facilitating capabilities in administrative activities from data storage to decision making and knowledge management across the globe. Challenges facing in the way of deploying ICT in education administration and management are impeding to create and encourage the ICT utilization in administration tasks to make their work more effective and efficient. The implementation of the recommended solutions will have no doubt boost the confidence of the present day and would assist in deploying ICT in their schools. It is worthy of note that school management using ICT has enormous impacts on nation building and development. Information communication technologies (ICTs) affect each institution of life and administration containing education sector and it assist to promote changes and enhance quality and conditions of work, managing, substituting and disseminating of information in surpassing the teaching-learning approaches and

concerned whole administration. In Pakistan using ICT in distance education remained a powerful and potential vehicle during the Covid-19 pandemic outbreak which provides an opportunity to collect the experience to meet such type of dilemma in time to come and justify the ongoing process of educational activities. ICT can also create the excellence to sustain an easy teaching and learning Reciprocal Avenue to meet the set goal of educational aims and handle the situation with the competent expansion of knowledge.

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